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A N N O U N C E M E N T

Our next Annual Meeting will be held in Fort Worth, Texas during the week of October 27th.

The American Public Health Association and its other affiliated Associations will meet there during the same week.

Begin now to make your plans to attend these meetings.

The April Bulletin will contain an alphabetical list with addresses of more than 200 new members who have joined the Association since November 1st, 1928.

Send in new members or physicians to whom we can extend an invitation to join.

STANDARDIZED LIGHT IN VISION TESTING OF SCHOOL CHILDREN

BY

B. FRANKLIN ROYER, M. D.,
Medical Director,
NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS

Address, Second Annual Meeting
of American Association of School
Physicians, Minneapolis, Minn.
September 30, 1929.

Probably more errors that bring discredit upon those directing school health services are made in testing vision with inadequate light than in any other branch of school health work. There are few buildings in any American city today that are not provided with electric current, hence there is no good reason why all vision tests in any such building should not be made under adequate light.

Ophthalmologists, illuminating engineers, and those of us who have been active in the field of school health are generally in agreement that school room tests for the acuity of vision may best be done with from ten to twelve foot-candles of light evenly distributed over the characters used for the reading test. It is not necessary that any elaborate or expensive equipment be provided in order to get this amount of light. The device shown in the accompanying illustration was made as a portable outfit to be carried about from building to building and is easily within the reach of any school. Adequate light may even be had with an ordinary "gooseneck" lamp properly adjusted and equipped with a sixty watt, inside frosted, daylight bulb (Macbeth glass).

The essential thing is that the light be delivered to the chart evenly and without shadows and that the child whose vision is being tested shall not face glare produced by the light. It is also important that the child be so placed in the room that no glare from any other source strikes his eyes.

The child should stand in good light. The human eye very quickly adapts itself to the amount of light in its vicinity. A child standing in a dark corner or closet and looking out at a well lighted chart twenty feet away will speedily have the eyes become dark-adapted - that is, the pupils will become too large for good, sharp distance vision. Under these conditions, too many confusing impressions strike the macular area to give a sharp picture such as is needed for careful testing of visual acuity.

One needs only watch those whose job it is to test the vision of school children, in a considerable number of cities, as I have done, to find that it is the exception rather than the rule to have adequate light. Indeed, it is very common to find physicians and nurses working with whatever amount of light may be readily available, sometimes with less than two, or even less than one and a half, foot-candles of light on the Snellen chart. Only recently, in a large city, I watched several school physicians test vision using ordinary daylight, with the chart mounted on a wall more than twenty-five feet from the nearest window, and on a day - I did not have my foot-candle meter with me - when there certainly could not have been more than a full foot-candle of light on the chart. The examiner in one instance made the remark that the children were not doing so well that day because the light was not very good. All that was needed in that room to provide adequate light could have been obtained for $3.50.

Moving the chart nearer the window would have given better daylight and yet for twenty years in that city the same kind of indifferent eye tests have been made.

To summarize, then, there is no excuse now in any school building having electric current for the doctor to use anything but standardized electric light in making his vision tests. If vision tests are made with reasonable care and with standardized light of ten or twelve foot-candles, children referred to the ophthalmologist's office on the acuity of vision test alone will in all probability show a test there exactly comparable to that in the school, and the confusion arising from needless reference of children who were unable to read the normal line in the original test because of inadequate light will cease.

SYMPTOMS SUGGESTIVE OF EYESTRAIN

Headaches

Eyeaches

Itching, smarting or watering of the eyes

Spasm of the eyelids

Inflammation of eyes or lids

Frequent sties

Swelling, puffiness or drooping of lids

Blurred or double vision, letters running into each other

Sensitiveness to light

Peculiar positions of the head

Squinting, frowning, wrinkling of forehead or face

Tired feeling on using the eyes

Holding the book nearer or farther from the eyes than normal (12 to 14 inches is normal)

Fatigue

ASSISTANCE BY TEACHER OR NURSE

The teacher or nurse will often be able to answer some of the questions on the following list. She should also record the results of her observations of each pupil, under the following, not depending upon the child's statements alone:

Are the child's eyes straight? Is he cross-eyed or wall-eyed?

Does he squint? (one eye or the other turn in or out slightly?)

Does he squint or frown habitually? (This may be a habit rather than a symptom of eye strain.)

Can he read from the blackboard as readily as other pupils?

Does he hold his book 12 to 14 inches from the eyes?

Does his posture while reading lead you to think that he can not see distinctly?

Is he easily fatigued, and is this increased when he uses his eyes?

Is the eyeball congested or reddened; is it cloudy; is there a "sore" on the eyeball? Is the pupil enlarged, or very small?

Are the eyelids reddened, crusted? Are sties present?

Does it seem that the child's eyes are oversensitive to light?

Does he seem to hear easily at ordinary distances?

Does his posture or attitude indicate any difficulty in hearing?

Does he often say "What?" when asked a question, or ask you to repeat the question, or does he "make believe" hear it?

Is he inattentive?

Do the ears look healthy on the outside?

Is a discharge ever present?

WHEN SHOULD TONSILS BE REMOVED?
STANDARD RECOMMENDATIONS FOR SCHOOL PHYSICIANS

J. L. BOWMAN, M.D.,
Health Officer, Montgomery, Ala.

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As I sat in this Assembly a year ago in Chicago and listened to a splendid paper dealing the the removal of tonsils I was impressed with the part the personal equation must play in the records and recommendations made by school examiners in their routine examination of these organs. Few if any of the defects or diseases which the examiner is supposed to observe will show the great variation in conclusions reached, not only in different localities and by different examiners, but by the same examiner from year to year.

I thought of the fifteen years through which I had floundered, so to speak, endeavoring to determine indications as to just when the examiner should say and record that a child's tonsils should be removed.

In the early years only the large tonsils were noted. Further study and experience showed that these were perhaps doing the least damage and represented but a small percentage of those which should have attention.

As additional information and experience came I was inclined to give undue attention to certain conditions and symptoms for that year. During the next years examination, some individual case, striking experience or literature on the subject would cause the tonsils to be viewed from a different angle. Other factors which change the point of view of the examiner are the attitude of the general practitioner to whom the majority of these children go for advice and the decisions of the surgeons to whom the cases are finally referred. And so it took quite a number of years before any fairly consistant basis was found upon which to make my

recommendations.

I cannot think that my experience has been materially different from other examiners unless they be throat specialists and then as evidenced by the paper published in last years transactions, the personal factor plays a great part.

This unfortunate condition can only be corrected by the formulation and acceptance of standards for the aid and guidance of school examiners. I know of no group or organization in a position to do this so effectively as this Association.

A commission should be appointed and its services secured for this work, This commission should consist of outstanding men in Otolaryngology who would provide the technical knowledge, men recognized as authorities in general medicine whose approval would satisfy the general practitioner, and experienced school examiners who would decide as to the practical application of the standards in routine examination.

In the formulation of these standards the work should be approached with the dictum of Barnes in mind i.e: "The tonsils should, by all means, be respected as functioning organs, especially in children and should never be removed without adequate cause. But when such cause exists the loss of their functioning power should not be used as an argument against their complete extirpation".

These standards then should be conservative and characterized by simplicity so that the examiner of small experience can follow them.

No attempt should be made to cover the borderline or unusual cases since this would bring about complications which would defeat the purpose for which they are designed.

Once such standards are created and approved the school examiner, in addition to being familiar with them himself, should endeavor to get them before every general practitioner and surgeon

to whom these children may go in order that the physician and surgeon may know the condition and symptoms upon which the examiner bases his decision.

It now seems necessary to add to this paper a paragraph dealing with the indications for recommendation of the removal of tonsils which experience has suggested not with the idea of presenting anything ideal or original but solely for the purpose of illustrating the idea of standard indications which a school examiner may put into practice.

Indications for all surgical interference are comprehended under two headings Mechanical Correction and Removal of Infection. These apply equally well to the removal of tonsils as to any other surgical procedure.

Tonsils offering mechanical obstruction are rarely overlooked by examiner or family physician, however a greater degree of obstruction should be in evidence in a child under 7 or 8 years of age than in older children since there is a much greater tendency to regress at the younger age than when the children are older.

Infection in the tonsils is not so easily determined. Pus discharging and inflamed crypts are easily recognized and the procedure in these cases cannot be questioned.

Superficial inflammation of the mucous membrane over the tonsils extending to other areas is not an indication for surgical interference. Being usually due to a systemic condition, it will not be relieved by tonsilectomy and may be aggrevated.

The buried infected tonsil, often containing pus pockets, is far more damaging to the child than any condition mentioned above and presents more difficulties for diagnosis.

Or a suspicious tonsil in the presence of a positive history of peritonsillar abscess, frequent streptococcic sore

demands careful consideration.

After some years of experience I have found two conditions which indicate practically all such tonsils, namely; discoloration or edema of the anterior pillar overlying the tonsil, and enlargement of the tonsilar lymph gland located at the anterior border of the Sterno-mastoid muscle one-half to three-fourths of an inch below the angle of the jaw, with or without envolvement of the lymph glands and without enlargement of the submaxillary gland located under the angle of the jaw.

Manipulation is out of the question in the routine examinations as children frequently raise serious objection and cause considerable disturbance. We must therefore resort to less disturbing methods.

ORIENTATION OF CLASS ROOMS.

Dresslar and Southerland who have been studying the location of classrooms of school buildings come to the conclusion that for latitude 36° 10' the best orientation is either west or east. "These furnish opportunity for purification of the room by sunlight before and after school, without interference with pupils, and call for fewer hours with window shades down during school hours. The next facings in order of desirability are southwest, southeast and south." Their methods of study are reported in Peabody Journal of Education for July 1929.

MODERN METHODS OF TESTING HEARING

Abstract of paper read at Minneapolis Meeting of Association of School Physicians, by A. M. Kerr, M.D., Medical Supervisor, Pittsburgh Public Schools.

The problem of the hard of hearing child is arousing increased interest since the advent of the audiometer. Since early diagnosis is of the utmost importance, and since the only group of medically trained persons who come in contact with the supposedly well children are the school physicians, it is important that they should be acquainted with the advantages and limitations of this newer diagnostic agent. This is especially true because those who advocate its use are prone to find fault with the results obtained by the School Doctors in their routine procedure.

The watch tick test and the acoumeter are not regarded as reliable. The whispered voice test cannot be standardized, and is dependent upon the personal equation of the examiner and the acoustics of the examining room. There is some doubt as to the distance that a "whispered voice" can be heard. Observations have been made ranging from eighteen to sixty-three feet as estimate of an average hearing distance. It has however the advantage that it can be used at any age level.

On the other hand, the audiometer, while it uses the voice as a measuring means, provides an unvarying intensity of sound at each sensation level, which can be increased or decreased by steps of a fixed and unvarying number of sensation units. An additional advantage is that forty children can be examined simultaneously, each giving a definite written record which can be scored and the results preserved indefinitely.

The amount of interference with school routine and the slowness of operation have created friction in certain districts.

This is entirely eliminated by correct organization on the part of the principal of the school. Cooperation of health workers and teachers through the principal makes for speed and accuracy and produces reliable results in a short space of time.

There has been some disagreement as to just how much hearing loss indicates a pathologic abnormality. The early literature was too sweeping in its statistics of the prevalence of deafness. It has not as yet been satisfactorily proven that the present arbitrary limit of the loss of nine sensation units has a scientific foundation. A certain proportion of the children fail to pass the audiometer test although they are able to take part fully in every phase of school activity and show no aural pathology on the most critical expert examination. This group, a part of the 80 percent showing uncorrectable pathology should be given Speech Reading.

There are other factors, such as the difference between the man's and the woman's voice, and the confusing of certain digits which lessen the value of the instrument. Flagging nervous control will cause errors to occur which may be wrongly interpreted as indicating deafness. This is corrected in 75 percent of the cases by retesting all children who fail on the first test. No report should be given of the first test. The result of the testing should be taken from the retest. An average of the statistics for the past three years shows that from 7 - 10 percent of all school children have a hearing defect.

It is urged that all writers on hearing tests shall use terms of scientific measurement stating specifically how many units of sensation loss are grouped under what they believe to be pathologic conditions. We will then have statistics which can be compared, correlated and contrasted understandingly and scientifically.

HEARING TESTS WITH THE PHONO-AUDIOMETER

EMILY A. PRATT, M.D.
State Education Building
Albany, N. Y.

The 4-A audiometer (phono-audiometer) is a screening method of estimating hearing loss in sensation units and should be checked with the 2-A audiometer and an otological examination. A further screening should be made on all "corrected" diseased tonsils and adenoid tissue, impacted cerumen and otitis media. Final retests should then be made with the result that an accurate estimate of hearing loss would be available. The recommendation for speech reading could then be given.

This would be prevention of deafness for which the 4-A audiometer was created.

In New York State exclusive of the three cities of the first class nearly 22,000 children were tested in 1928 and 1929.

The average percentage of defects found was between 7 and 10 percent.

1000 children can be tested easily in one school week together with the retests on all who are found defective on the first test.

100 can be tested in an hour.

Forty can be tested in 15 minutes.

Of the 7-10 percent found to have a hearing loss an average of 80 percent show some pathologic condition such as diseased tonsils and adenoid tissue, impacted cerumen, otitis media (acute or chronic), definite catarrh and probable sinusitis. A very small percentage have a hearing loss which is probably due to a beginning nerve deafness or oto sclerosis. This last group needs even more careful observation than the first.

It should be remembered that the audiometer is calibrated to the average noise in a city school.

It is safe to say that a hearing loss of 9 or more sensation units should be considered as defective hearing in the average city school. In isolated rural schools the limit of hearing loss should commence at 12 instead of nine. This is due to the fact that a rural school is subject to much less noise.

All children who show a hearing loss of 6 or more sensation units on the first test should be retested to eliminate the elements of nervousness, failure to comprehend and "slowness". One person should be selected to conduct all tests. She should be able to reduce the concentration factor to a minimum through her psychological approach.

All children who on the retest show a hearing loss of 6 sensation units should be considered "borderline". This is important as repeated tests show them to continue to fall into this group.

In New York State today there are about 70 audiometers in use during the school year.

Their usefulness has become an established fact.

Surveys in some of the larger cities of New York State show a hearing loss of from 7-10 percent. This means a loss of 9 or more sensation units in one or both ears. These findings check with those from San Francisco.

In a hearing survey of the schools of San Francisco, 8.7% were found with a loss of 9 points or more sensation units by the audiometer and 1.6% of the total number tested were considered sufficiently deafened to need training in lip reading.

APPEARANCE OF THE NORMAL DRUM MEMBRANE

By

M. R. Kendall, M. D.,
Cleveland, Ohio.

The drum membrane presents a glistening gray surface, the posterior superior part being nearer to the eye of the observer than the anterior inferior portion. The membrane is also recognized by the handle of the malleus which is directed downwards and backwards from the short process. This process is noted as a small projection in the anterior superior quadrant. Directed downward and forward from the lower end of the handle of the malleus is the cone-shaped light reflex. This reflex may be absent as a result of changes in the convexity of the membrane. In front of and behind the short-process are two folds which become more prominent in cases where the membrane is retracted. The membrana flaccida or Schrapnell's membrane lies above these folds. The structures of the middle ear may be seen if the tympanic membrane is very transparent. The long process of the incus may be seen as a white line behind the handle of the malleus and lying parallel with it. The head of the stapes appears as a round spot at the lower end of this line. The tendon of the stapedius muscle, which extends from the head of the stapes to the posterior margin of the membrane may also be visible. In the posterior inferious quadrant may often be seen a round shadow which is the niche of the round window. The nearness of the promontory gives the center of the membrane a pale yellow color. Occasionally the tympanic opening of the Eustachian Tube can be seen anteriorly.

In the next issue of the Bulletin, I shall attempt to describe some of the pathological conditions to be seen in school children.

SIGNIFICANCE OF WEIGHT AS AN INDEX TO HEALTH

By
HUGH CHAPLIN, M.D.,
New York City N Y

The weighing of the child has been the greatest influence in recent years in interesting doctors, parents and the child himself in his physical fitness. As a result, multitudes of delicate children have had physical defects discovered and corrected, and have had careful study given to their home conditions and their personal hygiene.

However, for some time many authorities have realized that the weight standard of physical fitness for children is unsatisfactory in a considerable number of cases. Many children, not underweight, are not physically fit: and not a few, seven or ten percent, under the stated average, are in good physical condition. The fact that the present weight standards are average standards is in itself undesirable. Average standards in most cases represent only partial achievement. We ought to aim, for each child, at the best that can reasonably be expected for him, and this should be emphasized more and more.

Although it is not possible, at this time, to offer an entirely satisfactory substitute for weight in the health-education program, never the less since it is so often inadequate, it is inevitable that weight, as the outstanding diagnostic measure of physical fitness, must give way to some other standard.

Evidence is steadily accumulating to show why the weight standard so often fails. The bony framework, so largely influenced by inheritance, is a predominating factor in determining weight rather than the amount and quality of subcutaneous tissue and muscle which seem to reflect more closely the immediate condition of physical fitness of the child. The factor of the bony framework is not taken into consideration in any of the weight charts at present available.

Such convincing evidence makes it unwise to use weight as the chief diagnostic measure of physical fitness in childhood. It would seem to be safer for the layworker to rely on such signs as color of the mucus membrane, luster of the eye, body posture, alertness of nervous and muscular action, susceptibility to fatigue, and the amount and quality of subcutaneous tissue and muscle. Even these characteristics are not always judged with absolute uniformity by physicians of experience. They are, however, distinctly valuable. There is encouraging evidence that the amount and quality of subcutaneous tissue and muscle may soon be accurately measurable by simple instruments of precision and so be raised from the catagory of varying human judgment to the definiteness of the temperature and blood pressure.

Weight is still important, however, when it is used to show the regularity of gain over a period of months or years. It is more important to know that a child is gaining steadily than that he or she weighs any particular amount at a certain time.

EFFECTS OF MALNUTRITION

In a study made by Dr. E. Thomas Beggs, School Medical Officer, Borough of Middleton, England, of 272 retarded children 7 to 14 years of age, chronologically, and 4 to 12 years by the Terman-Binet test, there were found to be four times as many cases per 100 of malnutrition, of defective vision, or ear disease and defective hearing, as appeared in the routine examination of average school children of these ages. There was evidence of rickets in six times as many retarded children, and defective speech was 16 times more common.

STATE MEDICAL JOURNALS

"With the January issue the New Jersey State Medical Journal introduced a new section known as the "School Health Department." This section will be continued as a regular feature. It is intended as a special vehicle of notes, announcements, articles, outlines, and practical suggestions for school physicians. It will be devoted entirely to the interests of school physicians and of the school health program.

Any school physician having something of interest or value to others is invited to become a contributor. Contributions should be sent to the undersigned at the State Department of Public Instruction."

Let us hope other State Medical Socities will adopt this excellent plan.

POST GRADUATE COURSE FOR SCHOOL PHYSICIANS

Columbia University will again present this year a special Summer Course for School Physicians. It will begin on June 16th and run for three weeks. It will deal with school medical inspection, including mental hygiene, corrective and special exercises. The instructors will be Dr Haven Emerson, Dr C I Lambert and Professor J F Williams, with their associates. Registration for the course should be made by June 1, 1930. The University fee for the course is sixty-seven dollars. For particulars address: DeLamar Institute of Public Health, 630 West 168th Street, New York City, N. Y.

VICE PRESIDENT LOKRANTZ HONORED

Dr Sven Lokrantz, Medical Director of the Los Angeles Schools was recently decorated by the King of Sweden for his health work for the children of California and in a lesser degree for the children of Sweden. Dr Lokrantz has constructed in Los Angeles one of the most successful systems of school medical inspection and health service in America. A few years ago he was instrumental in sending an ambulatory clinic to the needy children of Northern Sweden. This clinic is still being operated.

DETROIT'S STUDY OF OZONE

A special study of the effects of ozone was made in some of the Detroit schools for the past year. A comparison of children in the experimental rooms showed no differences that could not be largely explained "on the basis of factors other than the presence of ozone. It was definitely concluded that objectionable odors were almost entirely done away with in the ozone treated school," The experiment will be continued for another year.

ULTRAVIOLET RAYS IN LONDON SCHOOLS

In London 287 school children were divided into three approximately equal groups, one of which was exposed to ultraviolet rays in doses deemed appropriate, another to a similar lamp screened by window glass, while the third group received no special irradiation. The experiment was carried out over a six months period. The height and weight of the children was noted periodically and the daily record of colds and coughs was kept. Incidence of diseases other than colds, progress in school work, and subjective impressions of teachers, physicians and others were also noted. There was no clear evidence that irradiation had produced any results favorable or unfavorable.

LET OTHERS ANSWER

Dear Doctor Howe:

Recently I listened to an excellent address in which a physician detailed his methods of examining the lungs of college students. His technique appeared to be most clever and faultless. I was impressed with the fact that, after exhausting his ingenuity in physical examination, he found it essential to resort to the X-rays - especially when he suspected the presence of incipient tuberculosis.

I am wondering if school medical inspectors are wise in taking extra time to make thorough chest examinations of children, when after all, the X-rays are recognized as conclusive evidence in obscure cases. Why not resort to the X-rays in the beginning, when time is an object, as it certainly is with many medical inspectors who are responsible for the examination of large numbers of children?

The time saved in this way might be profitably expended in functional tests of the heart. It is well known that incipient heart disorders are often missed in the brief examinations made in schools. A little more attention to heart examinations would well reward the school medical examiner and his young subjects.

I should like the opinion of other medical inspectors as to the practicability of this suggestion.

FRANKLIN W. BARROWS, M.D.,
School Medical Supervisor,
New Rochelle, N. Y.